

**SIMPLIFIED METHOD FOR EXTRACTING MODEL PARAMETER SETS
AND METHOD FOR STATISTICALLY SIMULATING INTEGRATED
CIRCUIT USING THE SAME**

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ABSTRACT OF THE DISCLOSURE

A method of simulating the performance of an integrated circuit design is provided. In the case of extracting n model parameter sets in order to statistically simulate the performance of the integrated circuit, it is possible to significantly reduce the time spent on extracting the model parameters by extracting only one model
10 parameter set using the I-V characteristic curve created by directly measuring the I-V characteristic of the device as a target function and extracting the remaining $(n-1)$ model parameter sets using the main characteristic data (ET data) which can be easily measured such as the threshold voltage or the saturation current of the device as the target function. Since the main characteristic data (ET data) of the device is used as the target function, it
15 is possible to easily extract the model parameter set when the characteristics of the device are changed. Therefore, the designer can simply estimate the influence (sensitivity) that the changes in the characteristics of the device have on the performance of the integrated circuit design.